Bay Area Air Quality Management District

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Permit Evaluation and Statement of Basis for RENEWAL of the

MAJOR FACILITY REVIEW PERMIT

for

Tri-Cities Waste Management

Facility #A2246

Facility Address:
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Fremont, CA 94538

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May 2019

Application Engineer: Ryan Atterbury
Site Engineer: Ryan Atterbury

Title V Renewal Application: 29567
NSR Applications Included: 26068

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Title V Statement of Basis
Tri-Cities Waste Management
Plant #A2246
APPLICATION # 24421

A. BACKGROUND

The Tri-Cities Recycling and Disposal Facility (TCRDF) is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a designated facility as defined by BAAQMD Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to this part and that has a design capacity of greater than or equal to 2.5 million mega grams and 2.5 million cubic meters to obtain an operating permit pursuant to Part 70. As discussed in more detail below in Section C.IV of this report, this facility is subject to this NSPS and meets the designated facility criteria listed in 40 CFR § 60.32c(c), and therefore is required to obtain and operate under a Major Facility Review/Title V permit pursuant to District Regulation 2-6-304.

Major Facility Operating permits (Title V permits) must meet the requirement of 40 CFR Part 70, as contained in. BAAQMD Regulation 2, Rule 6. The permits must contain all applicable requirements (as defined in BAAQMD Regulation 2-6-202), monitoring requirements, recordkeeping requirements, and reporting requirements. The permit holders must submit reports of all monitoring at least every six months and compliance certifications at least every year.

In the Bay Area, state and District requirements are also applicable requirements and are included in the permit. These requirements can be federally enforceable or non-federally enforceable. All applicable requirements are contained in Sections I through VI of the permit.

Each facility in the Bay Area is assigned a facility number that consists of a letter and a 4-digit number. This facility number is also considered to be the identifier for the permit. The identifier for this facility is A2246.

This facility received its initial Title V permit on November 28, 2001. The permit was revised five times after the initial issuance and renewed on November 2, 2007 and May 5, 2014. Details of the previous revisions can be found in Section X of the permit "Revision History." The permit is due to expire on May 4, 2019 and will continue in force until the District takes final action on TCRDF's permit renewal application, since TCRDF submitted the application for renewal by the deadlines set out in Section I.B of the permit.

Pursuant to Regulation 2, Rule 6, section 416, the District has reviewed the terms and conditions of this proposed Major Facility Review permit and determined that they are valid and correct. This review included an analysis of all applicability determinations for all sources. The review also included an assessment of the sufficiency of all monitoring for determination of compliance

with applicable requirements. The statements of basis for permit revisions that have occurred through the last revision of the Major Facility Review permit are hereby incorporated by reference and are available upon request. The District is proposing to renew the Major Facility Review permit, with all changes to the permit since the last revision identified in strikeout/underline format. These changes are discussed in this Statement of Basis.

B. FACILITY DESCRIPTION

Tri-Cities Waste Management owns and operates the Tri-Cities Recycling and Disposal Facility (Facility Site # A2246), located in Fremont, CA. The permitted property encompasses about 225 acres. Of the total site area, 115 acres are permitted for municipal solid waste (MSW) disposal in a Class II/III landfill.

The S-1 Landfill began accepting waste in 1968. During the active waste acceptance period, this landfill accepted non-hazardous municipal solid waste, green waste, and some designated wastes, such as petroleum-contaminated soils. In May 1994, the landfill was issued a revised Solid Waste Facility Permit that approved an increase to the design capacity of the landfill. In accordance with 40 CFR §60.751, this 1994 design capacity expansion is considered a modification of the landfill. Therefore, the landfill became subject to the NSPS for MSW Landfills (40 CFR, Part 60, Subpart WWW). With the 1994 modification, the landfill permitted capacity was increased to 19.271 million cubic yards (about 13.5 million tons).

The landfill ceased accepting degradable waste on July 31, 2012. As of October 31, 2012, the landfill operator reported that this landfill contained a cumulative total of 12.8 million tons of refuse in place. Soil and inert waste were accepted through November 2013. Tri-Cities submitted a closure notification on December 20, 2013. The final cap was in place by December 31, 2013, and the remaining closure activities were completed by January 31, 2014.

The landfill is equipped with an active, continuously operated landfill gas collection system. Currently, all collected landfill gas is burned in the A-3 Landfill Gas Flare. A-3 is an enclosed ground flare with a maximum capacity of 75 MMBTU/hour or approximately 2,500 scfm of landfill gas.

Other than the landfill operation and landfill gas flare, the other operations at this facility include wood waste stockpiles and recycling operations, concrete and asphalt stockpile storage area/recycling operations, and a water truck.

Emissions

The main source of air emissions at this facility is the landfill. Landfills generate significant fugitive particulate matter emissions due to waste disposal activities, vehicle traffic, cover material handling operations, and wind erosion. As this landfill recently closed, the majority of these particulate emissions are no longer being generated.

In addition, the waste decomposition process generates landfill gas. Landfill gas contains mainly methane, carbon dioxide, and small amounts of non-methane organic compounds (<1%) and sulfur compounds. Many of the non-methane organic compounds (NMOCs) found in landfill gas are precursor organic compounds (POC), and some NMOCs are hazardous air pollutants (HAP) and toxic air contaminants (TAC). District, state, and federal regulations require that landfill gas be collected and controlled to reduce emissions to the atmosphere. To meet these requirements, the landfill at this site is equipped with an active landfill gas collection system and a landfill gas control system, which reduce POC, HAP, TAC, and greenhouse gas (GHG) emissions.

Active landfill gas collection systems consist of perforated pipes that are buried in the refuse at numerous locations, solid pipes referred to as laterals and headers, and blowers. The perforated pipes are called horizontal collectors or vertical wells, depending on the orientation of the pipes within the refuse. The solid pipes connect the horizontal collectors and vertical wells to the blowers. The blowers collect landfill gas by creating a vacuum in the buried refuse that draws landfill gas into the pipes. The blowers vent this collected landfill gas to the landfill gas control system.

The landfill gas control system at this site currently includes the A-3 Landfill Gas Flare. Currently, all collected landfill gas is vented to this flare. The flare destroys most of the methane, organic compounds, sulfur compounds, and HAPs in the landfill gas, but also produces secondary combustion pollutants including: nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM), formaldehyde, and acid gases, such as hydrogen chloride and hydrogen fluoride.

As of the last issuance of the Permit to Operate for the landfill source, the collection system included 31 vertical gas collection wells and no horizontal collectors. The landfill operator reported an average of 1,300 cfm of landfill gas collected, as of February 2017.

The wood waste, concrete, and asphalt stockpiles and recycling operations are additional sources of particulate matter emissions at this facility, as well as HAP and TAC emissions from those compounds found in the concrete and asphalt, which are emitted during crushing, grinding, and handling of these materials. The facility does not have District permits for the portable equipment used to process these materials. The portable equipment used for this purpose is registered under the state's portable equipment registration program and is exempt from major facility review pursuant to BAAQMD Regulation 2-6-113.

The landfill source description for this site follows:

S-1 Tri-Cities Landfill – Waste Decomposition Process; equipped with gas collection system and abated by A-3, Enclosed Landfill Gas Flare

The emissions from the District's most recent emission inventory for the permitted sources at this facility have been summarized below in Table 1. The emissions were based on the operating data reported by the facility for the year ending September 2018.

Table 1
Site #A2246, Tri-Cities Recycling and Disposal Facility
Actual Facility Emissions from Permitted Sources, Year Ending September 2018

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill – Waste Decomposition	--	44.895	0.110	--	--
S-5, Woodwaste Stockpiles	0.0003	--	--	--	--
S-24, Concrete and Asphalt Stockpiles	0.000	--	--	--	--
A-3, Enclosed LFG Flare	1.022	0.913	10.220	2.847	51.392
Total Facility Emissions	**1.022**	**45.808**	**10.330**	**2.847**	**51.392**

For general comparison purposes, Table 2 below summarizes a reconstruction of the actual facility emissions from the District's emission inventory at the time the Title V permit for this site was renewed in 2014. These emissions were calculated based on usage data reported by TCRDF for the 12-month period ending September 2012.

Table 2
Site #A2246, Tri-Cities Recycling and Disposal Facility
Actual Facility Emissions from Permitted Sources, 2014 Permit Renewal

Source Number/Description	Emissions (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill – Waste Decomposition	--	44.895	0.164	--	--
S-5, Woodwaste Stockpiles	0.002	--	--	--	--
S-24, Concrete and Asphalt Stockpiles	n/a	--	--	--	--
S-103, Landfill - Waste & Cover Material Dumping	2.263	--	--	--	--
S-104, Landfill – Excavating, Bulldozing, Compacting	1.132	--	--	--	--
A-3, Enclosed LFG Flare	1.515	1.369	15.348	4.289	77.161
Total Facility Emissions	**4.9**	**46.3**	**15.5**	**4.3**	**77.2**

Since the Title V Permit was renewed in 2014, one New Source Review (NSR) permit application was processed for TCRDF:

AN 26068 Extension of approval for less than continuous operation and higher operating value provisions for Leachate Cleanout Risers

All of the changes associated with these permit actions have been incorporated into the proposed permit renewal. Tri-Cities did not submit a Title V revision application with NSR application 26068.

Under Application 21444, the District issued Authorities to Construct for a landfill gas to energy plant, consisting of 3 new landfill gas-fired engines. As of September 19, 2017, the Authorities to Construct issued under Application 21444 have been cancelled and the Facility has no plans to install the sources for which they were issued.

The emission changes due to the NSR application have been summarized in Table 4 below:

Table 3
Site #A2246, Tri-Cities Recycling and Disposal Facility
Permitted Emission Increases (tpy) Since 2014 Title V Permit Renewal

Application	POC	NO_x	SO_2	CO	PM_{10}
26068	0	0	0	0	0

Since the total emission increases from the applications that have been permitted since the last Title V permit renewal are less than 1 ton per year on a per pollutant basis, the District concludes there has been no significant increase or change in the permitted pollutant levels at TCRDF since the Title V Permit was last renewed.

Because the landfill is closed, and the gas generation is dropping, the actual emissions are decreasing, as shown in Table 4. The table details the decrease in emissions from the 12-month period ending September 2012 to the 12-month period ending September 2018.

Table 4
Site #A2246, Tri-Cities Recycling and Disposal Facility
Decrease in Actual Facility Emissions from Permitted Sources, Period ending 9/12 to 9/18

Source Number/Description	Emissions Decrease (tons/year)				
	PM10	VOC	NOx	SO2	CO
S-1, Landfill – Waste Decomposition	--	0.000	0.054	--	--
S-5, Woodwaste Stockpiles	0.002	--	--	--	--
S-24, Concrete and Asphalt Stockpiles	--	--	--	--	--
S-103, Landfill - Waste & Cover Material Dumping	2.263	--	--	--	--
S-104, Landfill – Excavating, Bulldozing, Compacting	1.132	--	--	--	--

A-3, Enclosed LFG Flare	0.493	0.456	5.128	1.442	25.769
Total Facility Emissions	**3.890**	**0.456**	**5.182**	**1.442**	**25.769**

C. PERMIT CONTENT

The legal and factual basis for the permit follows. The permit sections are described in the order that they are presented in the permit.

I. Standard Conditions

This section contains administrative requirements and conditions that apply to all facilities. If the Title IV (Acid Rain) requirements for certain fossil-fuel fired electrical generating facilities or the accidental release (40 CFR § 68) programs apply, the section will contain a standard condition pertaining to these programs. Many of these conditions derive from 40 CFR § 70.6, Permit Content, which dictates certain standard conditions that must be placed in the permit. The language that the District has developed for many of these requirements has been adopted into the BAAQMD Manual of Procedures, Volume II, Part 3, Section 4, and therefore must appear in the permit.

The standard conditions also contain references to BAAQMD Regulation 1 and Regulation 2. These are the District's General Provisions and Permitting rules.

Changes to the Permit, Section I:

- The dates of adoption and approval of rules in Standard Condition 1.A have been updated.
- The applicable dates in Standard Condition I.B.1 will be updated to reflect the issuance date of the renewal permit.
- Email addresses have been added to reporting requirements in Standard Condition I.F and I.G

II. Equipment

This section of the permit lists all permitted or significant sources. Each source is identified by an S and a number (e.g., S-1). Permitted sources are those sources that require a BAAQMD operating permit pursuant to BAAQMD Regulation 2-1-302. Each of the permitted sources has previously been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. These permits are issued in accordance with state law and the District's regulations.

The permitted sources are listed in Table II-A. The capacities in the permitted sources table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-403.

Significant sources are those sources that have a potential to emit of more than 2 tons of a "regulated air pollutant," as defined in BAAQMD Regulation 2-6-222, per year or 400 pounds of

a "hazardous air pollutant," as defined in BAAQMD Regulation 2-6-210, per year. No significant sources have been reported at this facility.

All abatement (control) devices that control permitted or significant sources are listed. Each abatement device whose primary function is to reduce emissions is identified by an A and a number (e.g., A-3). If a source is also an abatement device, such as when an engine abates VOC emissions, it will be listed in the abatement device table but will have an "S" number. An abatement device may also be a source (such as a thermal oxidizer that burns fuel) of secondary emissions. If the primary function of a device is to control emissions, it is considered an abatement (or "A") device. If the primary function of a device is a non-control function, the device is a source (or "S").

The equipment section is part of the facility description. It contains information that is necessary for applicability determinations, such as fuel types, contents or sizes of tanks, etc. This information is part of the factual basis of the permit.

Changes to the Permit, Section II:

- No changes in this action.

III. Generally Applicable Requirements

This section of the permit lists requirements that generally apply to all sources at a facility including insignificant sources and portable equipment that may not require a District permit. If a generally applicable requirement applies specifically to a source that is permitted or significant, the standard will also appear in Section IV and the monitoring for that requirement will appear in Sections IV and VII of the permit. Parts of this section apply to all facilities (e.g., particulate, architectural coating, odorous substance, and sandblasting standards). In addition, standards that apply to insignificant or unpermitted sources at a facility (e.g., refrigeration units that use more than 50 pounds of an ozone-depleting compound) are placed in this section.

Unpermitted sources are exempt from normal District permits pursuant to an exemption in BAAQMD Regulation 2, Rule 1. Unpermitted sources may, however, be specifically described in a Title V permit if they are considered *significant sources* pursuant to the definition in BAAQMD Rule 2-6-239. This facility has no unpermitted significant sources.

Changes to Permit, Section III:

- Editorial corrections were made to the text in this section.
- The dates of adoption or approval of the rules and their "federal enforceability" status have been updated.

IV. Source-Specific Applicable Requirements

This section of the permit lists the applicable requirements that apply to permitted or significant sources. These applicable requirements are contained in tables that pertain to one or more sources that have the same requirements. The order of the requirements is:

- District Rules and Regulations

- SIP Rules (if any) are listed following the corresponding District regulations. SIP rules are District regulations that have been approved by EPA for inclusion in the California State Implementation Plan. SIP rules are "federally enforceable" and a "Y" (yes) indication will appear in the "Federally Enforceable" column. If the SIP rule is the current District rule, separate citation of the SIP rule is not necessary and the "Federally Enforceable" column will have a "Y" for "yes". If the SIP rule is not the current District rule, the SIP rule or the necessary portion of the SIP rule is cited separately after the District rule. The SIP portion is federally enforceable; the non-SIP version are not federally enforceable, unless EPA has approved it through another program.
- Other District requirements, such as the Manual of Procedures, as appropriate.
- Federal requirements (other than SIP provisions)
- BAAQMD permit conditions. The text of BAAQMD permit conditions is found in Section VI of the permit.
- Federal permit conditions. The text of Federal permit conditions, if any, is found in Section VI of the permit.

Section IV of the permit contains citations to all of the applicable requirements. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this permit evaluation/statement of basis.

Complex Applicability Determinations

Applicability of 40 CFR Part 64, Compliance Assurance Monitoring

Sources at Title V facilities may be subject to the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64. Three criteria specified in 40 CFR Part 64.2(a)(1-3) must be met for CAM to apply:

1. The source must be subject to a federally enforceable emission limit for a regulated air pollutant, other than an exempt limitation.
2. The source must use a control device to achieve compliance with this emission limitation.
3. The pre-controlled emissions of the specific pollutant being controlled must be greater than the major facility emissions threshold for that pollutant.

The District has reviewed applicability of the Compliance Assurance Monitoring (CAM) requirements in 40 CFR, Part 64, for this facility:

S-1, Tri-Cities Landfill – Waste Decomposition Process Equipped with Gas Collection System; abated by Landfill Gas Flare, A-3:

Landfills and landfill gas combustion equipment may also be subject to either the federal New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills or the Emission Guidelines (EG) for MSW Landfills. The federal NSPS for MSW Landfills (40 CFR Part 60, Subpart WWW) applies to landfills that have had a design capacity modification after May 30, 1991. As discussed previously, the 1994 design capacity increase to this landfill was considered a modification pursuant to 40 CFR § 60.751, bringing the design capacity of the

landfill to 19.271 million cubic yards (14.734 million m^3) and about 13.5 million tons (12.25 million Mg) of waste and making the landfill subject to this NSPS (40 CFR, Part 60, Subpart WWW).

The NESHAP for Municipal Solid Waste Landfills (40 CFR 63, Subpart AAAA) was adopted in November 2002 with an effective date of January 16, 2003. Any landfills that are subject to the MSW Landfill NSPS or Emission Guidelines landfill gas collection and control requirements are also subject to this NESHAP. For landfills subject to the NESHAP at the date of adoption, the requirements became effective on January 16, 2004.

The exemption in Section 64.2(b)(1)(i) designates emission limitations or standards proposed after November 15, 1990 pursuant to Section 111 or 112 of the Clean Air Act from the CAM requirements. Since the NSPS and NESHAPS requirements for MSW Landfills (40 CFR Part 60, Subpart WWW and Part 63, Subpart AAAA, respectively) were adopted pursuant to Sections 111 and 112 of the Clean Air Act after November 15, 1990, these federal requirements have been deemed to contain adequate monitoring provisions, so additional compliance monitoring is not required under CAM. Therefore, the landfill waste decomposition process and its related emission control device (S-1 and A-3) are exempt from the first CAM applicability criteria, 40 CFR Part 64.2(a)(1), pursuant to 40 CFR Part 64.2(b)(1)(i).

Other sources: Woodwaste Stockpiles/Loadout (S-5), Concrete and Demolition Asphalt Stockpiles (S-24)

These operations emit fugitive PM_{10}. Although water sprays are employed to reduce PM_{10} emissions, these measures are more passive in nature and are intended to prevent PM_{10} emissions from forming. Therefore, these emission controls do not constitute a control device as defined in Section 64.1. Also, the pre-control and post-control PM_{10} emissions from these operations are fugitive in nature. Therefore, the second CAM applicability criteria does not apply.

Since S-5 and S-24 do not meet the second CAM applicability criteria - 40 CFR Part 64.2(a)(2), these sources are not subject to CAM.

Changes to the Permit, Section IV:

- Editorial corrections were made to the text of Section IV.
- The dates of adoption or approval of the rules and their "federal enforceability" status have been updated.
- BAAQMD Regulation 6-1-310 was amended on August 1, 2018 to include a more stringent total suspended particulate (TSP) concentration limit, which is included in 6-1-310.2. The Landfill Gas Flare, A-3, is exempt from 6-1-310.2 by the limited exemption, 6-1-114.2, which exempts gas-fuel fired control devices that control only gaseous emissions from compliance with 6-1-310.2 and 6-1-311.2.
- BAAQMD Regulation 6-1-307 was adopted on August 1, 2018 and prohibits visible emission within and from regulated bulk material sites. The woodwaste stockpiles, S-5, and the concrete and asphalt stockpiles, S-24, are subject to the requirements of 6-1-307.1 and 6-1-307.2.
- BAAQMD Regulation 6-6 was adopted on August 1, 2018 and limits the quantity of particulate matter in the atmosphere through control of trackout of solid materials onto

paved public roads outside the boundaries of large bulk material sites, large construction sites, and large disturbed surface sites including landfills. The landfill, S-1, the woodwaste stockpiles, S-5, and the concrete and asphalt stockpiles, S-24, are subject to the requirements of BAAQMD Regulation 6-6.

V. Schedule of Compliance

A schedule of compliance is required in all Title V permits pursuant to BAAQMD Regulation 2-6-409.10, which provides that a major facility review permit shall contain the following information and provisions:

"409.10 A schedule of compliance containing the following elements:

10.1 A statement that the facility shall continue to comply with all applicable requirements with which it is currently in compliance;

10.2 A statement that the facility shall meet all applicable requirements on a timely basis as requirements become effective during the permit term; and

10.3 If the facility is out of compliance with an applicable requirement at the time of issuance, revision, or reopening, the schedule of compliance shall contain a plan by which the facility will achieve compliance. The plan shall contain deadlines for each item in the plan. The schedule of compliance shall also contain a requirement for submission of progress reports by the facility at least every six months. The progress reports shall contain the dates by which each item in the plan was achieved and an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted."

Since the District has not determined that the facility is out of compliance with an applicable requirement, the schedule of compliance for this permit contains only sections 2-6-409.10.1 and 2-6-409.10.2.

There has been no change to the compliance status at this facility.

Changes to the Permit, Section V:
No change in this action.

VI. Permit Conditions

Each permit condition is identified with a unique numerical identifier, up to five digits. The existing permit conditions are derived from previously issued District Authorities to Construct (A/C) or Permits to Operate (P/O). Permit conditions may also be imposed or revised as part of the annual review of the facility by the District pursuant to California Health and Safety Code (H&SC) § 42301(e), through a variance pursuant to H&SC § 42350 et seq., an order of abatement pursuant to H&SC § 42450 et seq., or as an administrative revision initiated by District staff. After issuance of the Title V permit, permit conditions will be revised using the procedures in Regulation 2, Rule 6, Major Facility Review.

The regulatory basis is listed following each condition. The regulatory basis may be a rule or regulation. The District is also using the following terms for regulatory basis:

- BACT: This term is used for a condition imposed by the Air Pollution Control Officer (APCO) to ensure compliance with the Best Available Control Technology in Regulation 2-2-301.

- Cumulative Increase: This term is used for a condition imposed by the APCO that limits a source's operation to the operation described in the permit application pursuant to BAAQMD Regulation 2-1-403.
- Offsets: This term is used for a condition imposed by the APCO to ensure compliance with the use of offsets for the permitting of a source or with the banking of emissions from a source pursuant to Regulation 2, Rules 2 and 4.
- PSD: This term is used for a condition imposed by the APCO to ensure compliance with a Prevention of Significant Deterioration permit issued pursuant to Regulation 2, Rule 2.
- TRMP: This term is used for a condition imposed by the APCO to ensure compliance with limits that arise from the District's Toxic Risk Management Policy. This policy was replaced by Regulation 2, Rule 5 in 2005.

During the Title V permit development, the District has reviewed the existing permit conditions, deleted the obsolete conditions, and, as appropriate, revised the conditions for clarity and enforceability. While the District has authority to revise the existing permits and is doing so here concomitantly with the Title V process, it also has authority to supplement the terms of existing permits through the Title V process itself. Additional monitoring has been added, where appropriate, to assure compliance with the applicable requirements.

Changes to the Permit, Section VI:

- In Condition #8366**,** Parts 2, 4, and 21 provisions were put in place to allow less than continuous operation of the leachate cleanout risers and higher operating values for the leachate cleanout risers.

All changes to existing permit conditions are clearly shown in "strike-out/underline" format in the proposed permit. When the permit is issued, all 'strike-out" language will be deleted; all "underline" language will be retained.

VII. Applicable Limits and Compliance Monitoring Requirements

This section of the permit is a summary of numerical limits and related monitoring requirements for each source. The summary includes a citation for each monitoring requirement, frequency of monitoring, and type of monitoring. The applicable requirements for monitoring are contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Monitoring decisions are typically the result of a balancing of several different factors including: 1) the likelihood of a violation given the characteristics of normal operation, 2) the degree of variability in the operation and in the control device, if there is one, 3) the potential severity of impact of an undetected violation, 4) the technical feasibility and probative value of indicator monitoring, 5) the economic feasibility of indicator monitoring, and 6) some other factor, such as a different regulatory restriction applicable to the same operation, that also provides some assurance of compliance with the limit in question.

These factors are the same as those historically applied by the District in developing monitoring for applicable requirements**.** It follows that, although Title V calls for a re-examination of all

monitoring**,** there is a presumption that these factors have been appropriately balanced and incorporated in the District's prior rule development and/or permit issuance. When a rule or permit requirement has historically had no monitoring associated with it, no monitoring may still be appropriate in the Title V permit if, for instance, there is little likelihood of a violation**.** Compliance behavior and associated costs of compliance are determined in part by the frequency and nature of associated monitoring requirements. As a result, the District will generally revise the nature or frequency of monitoring only when it can support a conclusion that existing monitoring is inadequate**.** The most recent monitoring report, submitted in 2018, included extensive monitoring and did not show any non-compliance.

The tables below list only the emission limits for which there is no monitoring in the applicable requirements. For each emission limit without corresponding monitoring, the analysis of the individual source compliance status has been documented. If a determination of inadequate monitoring was found, additional monitoring would be proposed through this permit renewal. However, in the cases identified below, no additional monitoring is being recommended for the reasons identified. The District has examined the monitoring for all other emission limits and has determined that monitoring is adequate to provide a reasonable assurance of compliance.

Table 5
SO2 Emission Limits with No Associated Monitoring
Site #A2246, Tri-Cities Recycling and Disposal Facility

S# & Description	Emission Limit Citation	Federally-Enforceable Emission Limit	Monitoring
S-1, Tri-Cities Landfill and A-3, Landfill Gas Flare	BAAQMD 9-1-301	Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes, AND ≤ 0.25 ppm for 60 minutes, AND ≤ 0.05 ppm for 24 hours	None

SO_2 Discussion:
Burning of fuel that contains sulfur compounds will result in emissions of sulfur dioxide (SO_2) as a product of that combustion. The landfill gas burned at the flare at this facility contains small levels of sulfur compounds which will contribute to ground level concentrations of SO_2.

BAAQMD Regulation 9-1-301
Area monitoring to demonstrate compliance with the ground level SO_2 concentration limitations of Regulation 9-1-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). Since the ground level monitoring is expensive, such monitoring is not required if the expected levels of SO_2 emissions are low, resulting in a large expected margin of compliance with the emission limit.

A-3 Landfill Gas Flare: The emissions of SO_2 in the flue gas from the flare A-3 are limited to 300 ppm, per Regulation 9-1-302. A sulfur concentration of 1422 ppm converts to 300 ppm SO_2 in the flue gas at 0% excess oxygen, so compliance with Regulation 9-1-302 is monitored through a surrogate limit of 1300 ppm total sulfur compound in the landfill gas. District source

tests indicate that the actual concentrations of total reduced sulfur in typical Bay Area landfill gas are less than 400 ppmv. Total reduced sulfur in the landfill gas from the Tri-Cities Landfill was measured to be less than 210 ppm in the February 2017 source test, and this corresponds to flue gas concentrations under 20 ppm SO_2.

H_2S Concentration in Landfill gas to achieve 300 ppm SO_2 in Flue Gas
Basis: 300 ppm SO_2in flue gas (FG) @ 0% excess oxygen
F Factor (@ 0% oxygen) = 4.7356 scf FG/scf LFG (based on 490 Btu/scf @ ~49.5% methane)

S in LFG = (300 cu ft SO_2/1E6 cu ft FG)(4.7356 cu ft FG/cu ft LFG) = 1421 ppm S in LFG

Regarding ground level concentrations of SO_2 at the property line, computer modeling studies have shown that facilities that are in compliance with the 300 ppm SO_2 standard (Regulation 9-1-302) are not expected to exceed the ground level concentration standards in Regulation 9-1-301. Therefore, no further monitoring for Regulation 9-1-301 is recommended at this time.

Table 6
PM Emission Limits with No Associated Monitoring
Site #A2246, Tri-Cities Recycling and Disposal Facility

S# & Description	Emission Limit Citation	Federally-Enforceable Emission Limit	Monitoring
A-3 Landfill Gas Flare	BAAQMD 6-1-301 and SIP 6-301	Ringelmann 1.0	None
A-3 Landfill Gas Flare	BAAQMD 6-1-310.1 and SIP 6-310	≤0.15 grains/dscf	None

PM Discussion:
A-3 Landfill Gas Flare:
BAAQMD Regulation 6-1-301 and SIP Regulation 6-301 limit visible emissions to no darker than 1.0 on the Ringelmann Chart, except for periods or aggregate periods less than 3 minutes in any hour. Visible emissions are normally not associated with proper combustion of gaseous fuels. Since A-3 burns only landfill gas and propane, no monitoring is required to assure compliance with this limit.

BAAQMD Regulation 6-1-310.1 and SIP Regulation 6-310 limit filterable particulate (FP) emissions from any source to 0.15 grains per dry standard cubic foot (gr/dscf) of exhaust volume.

Maximum potential PM emissions for A-3 were based on the AP-42 emission factor for landfill gas-fired flares (17 lbs PM_{10}/MM dscf of methane). Assuming the landfill gas contains 50% methane with an HHV of 497 BTU/scf LFG and produces 4.773 sdcf of exhaust at 0% oxygen per scf of landfill gas burned, maximum calculated emissions, as shown below, are less than 5 ton/yr. with a resulting PM concentration in the flue gas of 0.013 gr/dscf. As this is far less than the Regulation 6-1-310 limit, no monitoring is required for A-3 to demonstrate compliance with this limit.

PM Factor: (17 lbs PM_{10}/MM dscf CH_4)/(1E6 scf CH_4/MM dscf CH_4)*(0.50 scf CH_4/scf LFG)/
(497 BTU/scf LFG)*(1E6 BTU/MM BTU) = 0.0171 lbs PM_{10}/MM BTU

PM Concentration: [(0.0171 lb PM/MM Btu)(7000 gr/lb)(1 MM Btu/1E6 BTU)(497 Btu/scf)]/(4.736 cu ft flue gas/cu ft LFG, @ 0% O_2) = 0.013 gr/dscf

Table 7
H_2S Emission Limits with No Associated Monitoring
Site #A2246, Tri-Cities Recycling and Disposal Facility

S# & Description	Emission Limit Citation	Federally-Enforceable Emission Limit	Monitoring
S-1, Tri-Cities Landfill A-3, Landfill Gas Flare	BAAQMD 9-2-301	Property Line Ground Level Limits of H_2S $\leq$ 0.06 ppm Averaged over 3 minutes AND $\leq$ 0.03 ppm Averaged over 60 minutes	None

H2S Discussion:

BAAQMD Regulation 9-2-301
Area monitoring to demonstrate compliance with the ground level H_2S concentration limitations of Regulation 9-2-301 is required at the discretion of the APCO (per BAAQMD Regulation 9-1-501). This regulation is a non-federally enforceable requirement.

The H_2S emissions near this site are a result of fugitive emissions from the landfill. Hydrogen sulfide can be detected by its odor at concentrations as low as 0.0005 ppmv and is generally identified by its characteristic rotten egg smell a concentration of 0.005 ppmv or less. Therefore, hydrogen sulfide emissions are typically discovered by smell well before the concentration approaches the lowest 9-2-301 emission limit of 0.03 ppmv. Since odor complaints are uncommon for this site, monitoring is not recommended at this time.

Changes to the Permit, Section VII:
No change in this section.

VIII. Test Methods

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

If a rule or permit condition requires ongoing testing, the requirement will also appear in Section IV of the permit.

Changes to Permit, Section VIII:
No changes in this section.

IX. Permit Shield

The District rules allow two types of permit shields. The permit shield types are defined as follows: (1) A provision in an MFR permit explaining that specific federally enforceable regulations and standards that are not applicable to a source or group of sources, or (2) A provision in an MFR permit explaining that specific federally enforceable applicable requirements for monitoring, recordkeeping and/or reporting are subsumed because other applicable requirements for monitoring, recordkeeping, and reporting in the permit will assure compliance with all emission limits.

The second type of permit shield is allowed by EPA's White Paper 2 for Improved Implementation of the Part 70 Operating Permits Program. The District uses the second type of permit shield for all streamlining of monitoring, record keeping, and reporting requirements in Title V permits. The District's program does not allow other types of streamlining in Title V permits.

Changes to the Permit, Section IX:
No changes in this section.

X. Revision History

This section of the permit summarizes each revision to the permit.

Changes to the Permit, Section X:

- The permit revisions associated with this proposed renewal were added to Section X.

XI. Glossary

This section of the permit defines and explains acronyms, abbreviations, and other terms that are used in this permit.

Changes to the Permit, Section XI:

- The definition of a major facility was updated.

D. ALTERNATIVE OPERATING SCENARIOS

No alternate operating scenario has been requested for this facility.

E. COMPLIANCE STATUS

The responsible official for Tri-Cities Waste Management submitted a signed Certification Statement form with submittal of the application for renewal of the Title V permit, dated October 11, 2018. On this form, the responsible official certified that the following four statements are true:

Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form that are in compliance will continue to comply with the applicable requirements;

Based on information and belief formed after reasonable inquiry, the sources identified in the Applicable Requirements and Compliance Summary form will comply with future-effective applicable requirements, on a timely basis;

Based on information and belief formed after reasonable inquiry, information on application forms, all accompanying reports, and other required certifications is true, accurate, and complete;

All fees required by Regulation 3, including Schedule P have been paid.

F. DIFFERENCES BETWEEN THE APPLICATION AND THE PROPOSED PERMIT

The Title V permit renewal application was received on October 12, 2018. This application and the previous permit are the basis for constructing the proposed Title V permit. All differences between the Title V renewal application and the proposed permit have been discussed in this Permit Evaluation and Statement of Basis.

The following NSR applications have been discussed in this Statement of Basis and included in the proposed renewal of the Title V Permit:

- Permit Application #26068 requesting allowance of less than continuous operation and higher operating value provisions of the leachate cleanout risers was received on February 18, 2014 and the Change of Conditions was issued on July 16, 2014. Tri-Cities did not submit a Title V revision application to accompany this NSR application.

There following NSR application for this site has not been included in this proposed permit renewal:

- Permit Application #21444 requesting Authorities to Construct 3 landfill gas-fired engines was received on December 28, 2009, and Authorities to Construct were issued on March 12, 2013. As of September 19, 2017, the Authorities to Construct issued under Application 21444 have been cancelled and the Facility has no plans to install the sources for which they were issued.

APPENDIX A

GLOSSARY

ACT
Federal Clean Air Act

AP-42
An EPA Document "Compilation of Air Pollution Emission Factors" that is used to estimate emissions from numerous source types. It is available electronically from EPA's web site at: http://www.epa.gov/ttn/chief/ap42/index.html

APCO
Air Pollution Control Officer: Head of Bay Area Air Quality Management District

API
American Petroleum Institute

ARB
Air Resources Board (same as CARB)

ASTM
American Society for Testing and Materials

ATC
Authority to Construct

ATCM
Airborne Toxic Control Measure

BAAQMD
Bay Area Air Quality Management District

BACT
Best Available Control Technology

BARCT
Best Available Retrofit Control Technology

Basis
The underlying authority that allows the District to impose requirements.

BDT
Best Demonstrated Technology

C1
An organic chemical compound with one carbon atom, for example: methane

C3
An organic chemical compound with three carbon atoms, for example: propane

C5
An Organic chemical compound with five carbon atoms

C6
An Organic chemical compound with six carbon atoms

CAA
The federal Clean Air Act

CAAQS
California Ambient Air Quality Standards

CAPCOA
California Air Pollution Control Officers Association

CARB
California Air Resources Board (same as ARB)

CCR
California Code of Regulations

CEC
California Energy Commission

CEQA
California Environmental Quality Act

CEM
A "continuous emission monitor" is a monitoring device that provides a continuous direct measurement of some pollutant (e.g. NOx concentration) in an exhaust stream.

CFR
The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CH4 or CH_4
Methane

CO
Carbon Monoxide

CO2 or CO_2
Carbon Dioxide

CT
Combustion Zone Temperature

Cumulative Increase
The sum of permitted emissions from each new or modified source since a specified date. Used to determine whether threshold-based requirements are triggered.

District
The Bay Area Air Quality Management District

dscf
Dry Standard Cubic Feet

dscm
Dry Standard Cubic Meter

E 6, E9, E12
Very large or very small number values are commonly expressed in a form called scientific notation, which consists of a decimal part multiplied by 10 raised to some power. For example, 4.53 E 6 equals (4.53) x (10^6) = (4.53) x (10 x 10 x 10 x 10 x 10 x 10) = 4,530,000. Scientific notation is used to express large or small numbers without writing out long strings of zeros.

EG
Emission Guidelines

EGT
Exhaust Gas Temperature

EO
Executive Order

EPA
The federal Environmental Protection Agency.

Excluded
Not subject to any District regulations.

Federally Enforceable, FE
All limitations and conditions which are enforceable by the Administrator of the EPA including those requirements developed pursuant to 40 CFR Part 51, subpart I (NSR), Part 52.21 (PSD), Part 60, (NSPS), Part 61, (NESHAPs), Part 63 (HAP), and Part 72 (Permits Regulation, Acid Rain), including limitations and conditions contained in operating permits issued under an EPA-approved program that has been incorporated into the SIP.

FP
Filterable Particulate as measured by BAAQMD Method ST-15, Particulate.

FR
Federal Register

GDF
Gasoline Dispensing Facility

GLC
Ground level concentration.

GLM
Ground Level Monitor

grains
1/7000 of a pound

H2S or H_2S
Hydrogen Sulfide

H&SC
Health and Safety Code

HAP
Hazardous Air Pollutant. Any pollutant listed pursuant to Section 112(b) of the Act. Also refers to the program mandated by Title I, Section 112, of the Act and implemented by 40 CFR Part 63.

Hg
Mercury

HHV
Higher Heating Value. The quantity of heat evolved as determined by a calorimeter where the combustion products are cooled to 60F and all water vapor is condensed to liquid.

LFG
Landfill gas

LHV
Lower Heating Value. Similar to the higher heating value (see HHV) except that the water produced by the combustion is not condensed but retained as vapor at 60 °F.

Major Facility
A facility with potential emissions of: (1) at least 100 tons per year of regulated air pollutants, (2) at least 10 tons per year of any single hazardous air pollutant, and/or (3) at least 25 tons per year of any combination of hazardous air pollutants, or such lesser quantity of hazardous air pollutants as determined by the EPA administrator.

MAX or Max.
Maximum

MFR
Major Facility Review. The District's term for the federal operating permit program mandated by Title V of the Federal Clean Air Act and implemented by District Regulation 2, Rule 6.

Mg
Mega (million) gram

MIN or Min.
Minimum

MOP
The District's Manual of Procedures.

MSDS
Material Safety Data Sheet

MSW
Municipal solid waste

MSWL
Municipal solid waste landfill

MTBE
methyl tertiary-butyl ether

MW
Molecular weight

N2 or N_2
Nitrogen

NA
Not Applicable

NAAQS
National Ambient Air Quality Standards

NESHAPS
National Emission Standards for Hazardous Air Pollutants. See in 40 CFR Parts 61 and 63

NMHC
Non-methane Hydrocarbons (Same as NMOC)

NMOC
Non-methane Organic Compounds (Same as NMHC)

NOx or NO_x
Oxides of nitrogen.

NSPS
Standards of Performance for New Stationary Sources. Federal standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the Federal Clean Air Act, and implemented by 40 CFR Part 60 and District Regulation 10.

NSR
New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the Federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and District Regulation 2, Rule 2. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O2 or O_2
Oxygen

Offset Requirement
A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of POC, NOx, PM10, and SO2.

Phase II Acid Rain Facility
A facility that generates electricity for sale through fossil-fuel combustion and is not exempted by 40 CFR 72 from Titles IV and V of the Clean Air Act.

POC
Precursor Organic Compounds

PM
Particulate Matter

PM10 or PM_{10}
Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns

PSD
Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the District is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the Act and implemented by both 40 CFR Part 52 and District Regulation 2, Rule 2.

PV or P/V Valve
Pressure/Vacuum Valve

Regulated Organic Liquid
"Regulated organic liquids" are those liquids which require permits, or which are subject to some regulation, when processed at a liquid-handling operation. For example, for refinery marine terminals, regulated organic liquids are defined as "organic liquids" in Regulation 8, Rule 44.

RMP
Risk Management Plan

RWQCB
Regional Water Quality Control Board

S
Sulfur

SCR
A "selective catalytic reduction" unit is an abatement device that reduces NOx concentrations in the exhaust stream of a combustion device. SCRs utilize a catalyst, which operates at a specific temperature range, and injected ammonia to promote the conversion of NOx compounds to nitrogen gas.

SIP
State Implementation Plan. State and District programs and regulations approved by EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the Act.

SO2 or SO_2
Sulfur dioxide

SO3 or SO_3
Sulfur trioxide

SSM
Startup, Shutdown, or Malfunction

SSM Plan
A plan, which states the procedures that will be followed during a startup, shutdown, or malfunction, that is prepared in accordance with the general NESHAP provisions (40 CFR Part 63, Subpart A) and maintained on site at the facility.

TAC
Toxic Air Contaminant (as identified by CARB)

THC
Total Hydrocarbons (NMHC + Methane)

therm
100,000 British Thermal Unit

Title V
Title V of the federal Clean Air Act. Requires a federally enforceable operating permit program for major and certain other facilities.

TOC
Total Organic Compounds (NMOC + Methane, Same as THC)

TPH
Total Petroleum Hydrocarbons

TRMP
Toxic Risk Management Policy

TRS
Total Reduced Sulfur

TSP
Total Suspended Particulate

TVP
True Vapor Pressure

VMT
Vehicle Miles Traveled

VOC
Volatile Organic Compounds

Symbols:

<	=	less than
>	=	greater than
≤	=	less than or equal to
≥	=	greater than or equal to

Units of Measure:

atm	=	atmospheres
bbl	=	barrel of liquid (42 gallons)
bhp	=	brake-horsepower
btu	=	British Thermal Unit
BTU	=	British Thermal Unit
°C	=	degrees Centigrade
cfm	=	cubic feet per minute
dscf	=	dry standard cubic feet
°F	=	degrees Fahrenheit
ft^3	=	cubic feet
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
gr	=	grains (7000 grains = 1 pound)
hp	=	horsepower
hr	=	hour
in	=	inches
kg	=	kilograms
kW	=	kilowatts
lb	=	pound

lb-mol	=	pound-mole
M	=	thousand
m^2	=	square meter
m^3	=	cubic meters
Mg	=	mega-grams (1000 kg)
min	=	minute
mm	=	millimeter
MM	=	million
MMBTU	=	million BTU
MMcf	=	million cubic feet
mm Hg	=	millimeters of mercury (pressure)
MW	=	megawatts
ppb	=	parts per billion
ppbv	=	parts per billion, by volume
ppbw	=	parts per billion, by weight
ppm	=	parts per million
ppmv	=	parts per million, by volume
ppmw	=	parts per million, by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
scf	=	standard cubic feet
scfm	=	standard cubic feet per minute
sdcf	=	standard dry cubic feet
sdcfm	=	standard dry cubic feet per minute
therms	=	1 therm = 100,000 BTU
yd	=	yard
yd^3	=	cubic yards
yr	=	year

APPENDIX B

PERMIT APPLICATION ENGINEERING EVALUATIONS

Engineering Evaluations for the following permit applications are attached to the Statement of Basis in this Appendix.

AN	TITLE
26068	Change of Conditions

Engineering Evaluation Report

Tri-Cities Recycling and Disposal Facility, P#2246
7010 Auto Mall Parkway, Fremont
Application #26068

Background

Tri-Cities Recycling ("Applicant") has requested extension of approval of the "Less than Continuous Operation" and higher operating value provisions that were put into place for leachate cleanout risers (LCRs) at the TriCities Landfill, S-1. There are currently no LCRs in service but the permit conditions for the landfill allow installation of up to 5 LCRs.

LCRs are intended to collect and remove liquid ("leachate") that accumulates in the landfill. The LCRs are installed as a network of piping at the bottom of the landfill to collect liquid that accumulates in the landfill by gravity. This liquid is eventually drained to a sump. Although the leachate collection system is intended to capture and remove liquids, landfill gas can migrate into the leachate collection system. The accumulation of landfill gas in this system can eventually build up enough pressure to cause the gas to migrate out of the system where the cover is minimal, resulting in emissions of landfill gas and potential odor problems. To prevent this, the Applicant may periodically need to connect the leachate collection system to the landfill gas collection system to remove accumulated landfill gas.

However, continuous application of vacuum on these wells is problematic, because it can result in oxygen concentrations in excess of the limit in Regulation 8-34-305. To resolve this issue, the Applicant proposed to connect the leachate collection system to the gas collection system less than continuously and requested alternate operating limits for the LCRs under prior Application #22571. Under that application, the District issued a Change of Conditions to allow less than continuous operation of the LCRs and higher operating values than the landfill gas collection well standards in Regulation 8, Rule 34. Those terms were set to expire on January 30, 2014 unless the owner/operator requested renewal of those provisions and approval of the extension was issued. The Applicant requested extension of these provisions in February 2014.

Treatment of LCRs has changed since the permit condition changes were issued under Application #22571. Although the LCRs are not intended to be part of the main landfill gas collection system, the District considers them subject to landfill gas wellhead standards due to the periodic connection to the gas collection system. The permit conditions will be updated to the current standard conditions for leachate collection system components.

Emission Calculations

Landfills are sources of air emissions, including particulate matter from the handling of waste, excavation and compaction activities, as well as vehicular traffic across paved and unpaved roads. Landfill gas control equipment, as well as delivery vehicles and onsite mobile construction equipment, also generate combustion emissions from the combustion of fuel. The decomposition of waste in the landfill generates emissions of methane and volatile organic compounds, which is emitted in the form of fugitive leaks from uncollected landfill gas or as the small fraction of organic compounds which are not combusted at the landfill gas abatement device. All of these types of emissions are related to the permitted capacity of the landfill.

The TriCities landfill has ceased accepting degradable waste, so the emissions that occur due to active placement of waste no longer exist at this site. However, emissions from landfill continue due to degradation of the existing waste in place. However, installation of LCRs and intermittent connection of the leachate system to the gas collection system will not result in additional gas generation or any change in the landfill gas production rate.

The landfill gas that can accumulate in the leachate collection system does not represent new emissions – these emissions are generated from the existing waste in place. The occasional venting of the collected landfill gas from the leachate collection system to the gas collection system is therefore not an emission increase, but simply disposition of emissions from an already permitted source. Since the proposed periodic connection of the leachate collection system to the gas collection system does not represent an emission increase, this action is therefore not a "modification" of the landfill source as defined in Regulation 1-217:

> *"Any physical change in existing plant or change in the method of operation which results or may result in either an increase in emission of any air pollutant subject to District control, or the emission of any such air pollutant not previously emitted. …"*

Cumulative Increase

There is no change in emissions associated with the request to periodically connect the leachate collection system to the gas collection system, therefore there will be no change to the cumulative emission increases for this facility as a result of this application.

Compliance Determination

Regulation 1, "General Provisions and Definitions"
Regulation 2, Rule 1, "Permits – General Requirements" - Public Notice Requirements
Regulation 2, Rule 2, "Permits – New Source Review" - Best Available Control Technology (BACT) Requirements, Emission Offsets and Prevention of Significant Deterioration (PSD)
Regulation 2, Rule 5, "Permits – New Source Review of Toxic Air Contaminants" - Health Risk Assessment Requirements
Regulation 6, Rule 1, "Particulate Matter – General Requirements"
Regulation 9, Rule 2, "Inorganic Gaseous Pollutants – Hydrogen Sulfide"

As there is no increase in emissions associated with the proposed operation of the leachate collection system, continued compliance with the emission limits in Regulation 1 (public nuisance), Regulation 6, Rule 1 (particulate and visible emissions), and Regulation 9, Rule 2 (hydrogen sulfide) is expected. In addition, the public notification requirements of Regulation 2, Rule 1, Section 412, the BACT, PSD, and emission offset requirements in Regulation 2, Rule 2, as well as the health risk assessment requirements in Regulation 2, Rule 5 are requirements that are triggered based on emission increases and therefore also do not apply.

California Environmental Quality Act (CEQA) Requirements, Regulation 2, Rule 1

The proposed change of conditions for the leachate collection system does not involve an increase in emissions. Therefore, this request is exempt from CEQA review by the express terms of CEQA and District Regulation 2-1-312.1.

Major Facility Review, Regulation 2, Rule 6

The Title V federal permitting requirements of 40 CFR Part 70 have been codified and are enforced through District Regulation 2, Rule 6. This facility is a designated facility and is therefore subject to Title V and Regulation 2, Rule 6. As a designated facility, this facility was required to obtain a Title V Federal Operating Permit. The Title V permit for this facility was recently renewed in May, 2014. The proposed change of conditions for the leachate cleanout risers qualifies as a minor revision to the Title V permit, which will be processed under Application #21445.

Regulation 3, Fees

The facility has paid the application fees billed under Invoice 3HG08.

Regulation 8, Rule 34, "Organic Compounds – Solid Waste Disposal Sites"
Regulation 8, Rule 34 contains operational requirements that apply to the landfill gas collection system, as well as requirements that apply to the landfill operation and the landfill gas emission control system.

Section 8-34-301.1 requires the landfill gas collection system to be operated continuously, unless the requirements of Section 8-34-404 are met. Also, Section 8-34-305 defines the landfill gas collection wellhead standards: negative pressure (8-34-305.1), temperature < 55 ºC (8-34-305.2), and either N_2 < 20% or O_2 < 5% (8-34-305.3 or 305.4), which apply unless alternate operating limits have been approved. The District policy on how these standards apply to the leachate collection system has changed – the LCRs are being held to the gas collection system and wellhead standards, unless separate provisions have been made.

The leachate collection system, as well as the rest of the landfill, is subject to the landfill surface leak requirements in Section 8-34-303, limiting surface leaks to no more than 500 ppmv, as methane above background, unless the repair schedule of Section 8-34-415 has been met. Quarterly monitoring is required per Section 8-34-506, and records of this monitoring and repair procedures must be maintained per Section 8-34-501.6. Since this landfill is closed, if no surface leaks in excess of 500 ppmv are detected in 3 consecutive quarters, the monitoring frequency is extended to annual monitoring per Section 8-34-506.3. Any monitored surface leak exceedance increases the monitoring frequency back to quarterly monitoring.

The Applicant is expected to continue to comply with these applicable requirements, and the permit conditions will be revised to continue allowance of less than continuous operation and connection of the LCRs to the gas collection as necessary to comply with the surface leak limitations.

California Health and Safety Code Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4, Regulations to Achieve Greenhouse Gas Emission Reductions,
Subarticle 6, Methane Emissions from Municipal Solid Waste Landfills, Sections 95460-95476
This state regulation was adopted to reduce methane emissions from municipal solid waste landfills and applies to all MSW landfills that received waste after January 1, 1977. Waste was accepted at the TriCities Landfill after this date, so the landfill is subject to this regulation.

Section 95464 specifies requirements for the gas collection and control system. Section 95464(b)(1)(A) requires continuous operation of the gas collection and control system. Section 95464(b)(1)(B) requires the control system be operated such that there are no landfill gas leaks that exceed 500 ppmv, measured as methane, at any component containing landfill gas under positive pressure. Section 95464(b)(2) and (3) specify control efficiencies, and Section 95464(b)(4) specifies source test requirements for control devices. Section 95464(c) specifies that each wellhead must be operated under vacuum (negative pressure), except for well raising, repairs, decommissioned wells, or use of a geomembrane/synthetic cover. Section 95469(b)(3) requires quarterly leak monitoring to demonstrate compliance with this limit and repair within 10 days.

Section 95465(a) specifies a landfill surface leak limit of 500 ppmv, determined by instantaneous surface emissions monitoring, and an average methane concentration limit of 25 ppmv, as determined by integrated surface emissions monitoring, except at the working face of the landfill or areas where cover material has been removed for installing, expanding, replacing, or repairing landfill gas, leachate, or gas condensate collection and removal system components (Section 95466). Section 95469(a) requires quarterly instantaneous and integrated surface monitoring, as well as the records required to demonstrate compliance with this limit. For closed landfills, Section 95469(a)(1)(C) allows monitoring frequency to extend to annual monitoring if no exceedances are documented in 4 consecutive quarters. This monitoring reverts to quarterly if any exceedance is measured. The monitoring procedures are specified in Section 95471(c).

Section 95470(a) specifies the recordkeeping requirements, and Section 95470(b)(3) and (4) specify the annual reporting requirements. Test methods and procedures are contained in Section 95471.

Although the LCRs were never intended to be part of the landfill gas collection system, they can be considered "wellheads" and subject to Section 95464(c) due to the periodic connection to the gas collection system. Section 95468 allows the operator to request alternatives to the compliance measures, monitoring, test methods and procedures in Sections 95464, 95469, and 95471. Section 95468(a)(1) specifically cites activities such as semi-continuous operation of gas collection system due to insufficient gas flows, which applies to the LCRs when disconnected from vacuum when insufficient gas is available to justify the need to collect gas. The Compliance and Enforcement Division is handling implementation of the state rule, and has indicated that this alternative compliance operation should be pursued to ensure that there is no violation of this rule. The Applicant has been advised to seek approval of alternative compliance provisions from the Compliance and Enforcement Division.

40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS):
Subpart A, Standards of Performance for New Stationary Sources – General Provisions
Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills

Subpart WWW applies to municipal solid waste landfills that commenced construction, reconstruction, or modification or began accepting waste on or after May 30, 1991 and that have a design capacity of 2.5 million megagrams or more. For the purposes of Subpart WWW, modification is defined as

> *"an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion based on its permitted design capacity as of May 30, 1991. Modification does not occur until the owner or operator commences construction on the horizontal or vertical expansion."*

In May 1994, the TriCities landfill was issued a revised Solid Waste Facility Permit that approved an increase to the design capacity of the landfill. With the 1994 modification, the landfill permitted capacity was increased to 19.271 million cubic yards (about 12.2 million megagrams). In accordance with 40 CFR §60.751, this 1994 design capacity expansion is considered a modification of the landfill, so the landfill became subject to Subpart WWW at that time.

Section 60.753 specifies the operating standards for collection and control systems. Section 60.753(b) requires operation of the collection system with negative pressure at each wellhead. Section 60.753(c) requires operation of each interior wellhead in the collection system at a gas temperature less than 55 degreesC, and a nitrogen level less than 20% or oxygen level less than 5%, and allows the operator to establish a higher operating temperature, nitrogen, or oxygen limits for particular wells. 60.753(d) requires operation of the collection system so that surface leaks do not exceed 500 ppm above background at the landfill surface.

Section 60.755(c) requires quarterly surface monitoring. Section 60.756(f) allows closed landfills to perform surface monitoring annually if no exceedances are found in 3 consecutive quarters, which reverts back to quarterly with any monitored exceedance. Sections 60.757 and 768 specify the reporting and recordkeeping requirements. Section 60.755 specifies compliance provisions and 60.759 contains the requirements for active collection systems.

There is no definition of wellhead under this regulation to distinguish between landfill gas collection wells and leachate collection system components. However, Section 60.759(a) specifies that active collection wells, horizontal collection, and other extraction devices shall be sited at sufficiently density throughout gas-producing areas in a manner certified to achieve comprehensive control of surface gas emissions, and that the design should consider refuse and cover properties, gas system expandability, leachate and condensate management, air intrusion control, among others. This section also requires that

the density of the gas collection devices address landfill gas migration issues and augmentation of the collection system through use of active or passive systems at the landfill perimeter or exterior.

The regulation acknowledges that leachate management should be considered in the design of the gas collection system to sufficiently control surface gas emissions. Since the LCRs were never intended to be part of the landfill gas collection system, they are not necessary elements of the gas extraction system. Connection to the gas collection system is necessary to prevent surface leaks and gas migration issues, if the LCRs are located at the perimeter of the landfill, as required by the regulation. However, the regulation does not specify that LCRs are considered part of the gas collection system when not connected to vacuum. Therefore, the District has determined that these components are subject to wellheads standards under this regulation only when connected to the gas collection system.

40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories/Maximum Achievable Control Technology (MACT) Standards:

Subpart A, National Emission Standards for Hazardous Air Pollutants – General Provisions
Subpart AAAA, National Emission Standards for Hazardous Air Pollutants – Municipal Solid Waste Landfills

40 CFR Part 63, Subpart AAAA applies to existing and new municipal solid waste landfills that have accepted waste since November 8, 1987 or have additional capacity to accept waste and that meets any of the following:

- The landfill is a major source as defined in 40 CFR Part 63.2 of Subpart A (has the potential to emit, considering controls, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants);
- The landfill is co-located with a major source as defined in 40 CFR Part 63.2 of Subpart A; or
- The landfill is area source with a design capacity of 2.5 million megagrams and 2.5 million cubic meters or more and which has estimated uncontrolled non-methane organic compound emissions of 50 megagrams or more, as calculated according to Part 60, Subpart WWW.

The 1994 modification of the landfill increased the design capacity to 19.271 million cubic yards (about 12.2 million megagrams) and since the projected maximum NMOC generation rate of the landfill at maximum capacity exceeds 50 Mg per year, the landfill is subject to this regulation.

This rule requires compliance with the NSPS, Subpart WWW or Subpart Cc and compliance with Section 63.1960 through 63.1985 and the specified general provisions. Section 63.1960 requires compliance demonstrations through performance testing, monitoring, or other credible evidence as required by the NSPS or implementing District regulation, as well as development of a startup, shutdown, and malfunction (SSM) plan in accordance with Section 63.6(e)(3). Section 63.1980(a) requires submittal of a compliance report every 6 months, rather than just annually.

The following sections of the general provisions also apply to the landfills subject to this subpart: Sections 63.1(a), (b), and (e); 63.2; 63.4; 63.5(b); 63.6(e) operation, maintenance, and SSM plan requirements and (f) compliance with non-opacity standards; 63.10(b)(2)(i)-(b)(2)(v) SSM recordkeeping requirements and (d)(5) SSM reports; 63.12(a); 63.15.

Periodic connection of the leachate collection system to the gas collection system as proposed under this application will not affect the facility's requirement to develop and implement as SSM plan under this rule.

40 CFR Part 70, State Operating Permit Programs (Title V):

This facility is a designated facility and is currently subject to the requirements of 40 CFR Part 70. The requirements of this program have been codified in District Regulation 2, Rule 6, discussed above.

Permit Conditions

Parts 2, 4, and 21 of Condition #8366 will be revised as indicated below to allow intermittent connection of the leachate components to the gas collection system:

2. The owner/operator shall apply for and receive a Change of Conditions from the District before altering the landfill gas collection system described in Parts 2a-b below. Increasing or decreasing the number of wells or collectors are alterations subject to this requirement. The authorized number of landfill gas collection and leachate collection system components is the baseline count listed below, plus any components added and minus any components decommissioned pursuant to Part 2b, as evidenced by start-up/shutdown notification letters submitted to the District.
   a. The owner/operator has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications # 3515, 10998, 15345, and 17332. In addition, the owner/operator has been issued a Change of Conditions for modifications to the gas collection system, the details of which are included in Permit Application #22571.

	Required Components
(i) Main Gas Collection System	
Total Number of Vertical Wells:	31
Total Number of Horizontal Landfill Gas Trench Collectors:	0
(ii) Intermittent Gas Collection System	
Total Number of Leachate Collection Wells:	0

   b. The owner/operator is authorized to make the landfill gas collection system and leachate collection system component alterations listed below. Specific details regarding well alterations are described in Permit Application #22571.

	Minimum	Maximum
Install new Vertical Gas Extraction Wells:	0	30
Decommission Vertical Gas Extraction Wells:	0	15
Install new Horizontal Trench Collectors:	0	15
Decommission Horizontal Trench Collectors:	0	15
Install new Leachate Cleanout Risers:	0	5
Decommission Leachate Cleanout Risers:	0	5

   Wells installed, relocated, replaced, or shutdown pursuant to Part 2b shall be added to or removed from Part 2a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The owner/operator shall maintain records of the decommissioning date for each well that is shutdown and the initial operation date for each new or relocated well and trench. An unlimited number of vertical gas extraction well and horizontal trench collector replacements may be performed as long as the replacement is connected to the gas collection system within 24 hours of shutdown of the replaced well/trench collector.
   (Basis: Regulations 2-1-301, 8-34-301.1, 8-34-303, 8-34-304, and 8-34-305)

4. The landfill gas collection system described in Part 2a.(i) above shall be operated continuously. Wells shall not be disconnected or removed from operation nor shall isolation or adjustment valves be closed without written authorization from the District, unless the owner/operator complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The leachate collection system described in Part 2a.(ii) is not required to be operated continuously and is subject to the alternative wellhead standards described in Part 21, as allowed under Regulation 8-34-305. The CCR, Title 17, Section 95464(c) Wellhead Gauge Pressure Requirement continues to apply to these components.
   (Basis: Regulations 8-34-301 and 8-34-305, CA H&S Code, Title 17, Division 3, Chapter 10, Article 4, Subarticle 6, 40 CFR Part 60.753)

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21. The leachate collection system shall be connected to the vacuum system as needed to prevent violation of applicable surface and component leak limits, and the operating requirements listed below shall replace the operating requirements identified in Regulation 8-34-301.1, 8-34-305.3, and 8-34-305.4 for the leachate collection risers (LCRs). All LCRs remain subject to the landfill gas temperature limit in Regulation 8-34-305.2.
    a. The Regulation 8-34-305.3 and 8-34-305.4, the nitrogen and oxygen content limits, shall not apply, provided that each LCR is operated at an oxygen concentration not to exceed 15% by volume. Regulation 8-34-414 and subpart 21(b) below may be used in conjunction with this alternative wellhead limit.
    b. The component may be disconnected from the vacuum system if compliance with Part 21(a) requires turning off the vacuum to a LCR or if the temperature > 131 degreesF. The component shall be connected to vacuum if any pressure is detected.
    c. The owner/operator shall monitor and record the gauge pressure, oxygen content, methane content, and temperature at each LCR on a monthly basis regardless of whether the component is connected to vacuum or not.

    All records to demonstrate compliance with Part 21 and all applicable sections of BAAQMD Regulation 8, Rule 34 shall be recorded in a District-approved log and made available to District staff upon request for at least 5 years from date of entry. (basis: Regulations 8-34-305, 8-34-404, 8-34-414, 8-34-501.4, 8-34-501.9, Regulation 2-6-501, 40 CFR Part 60.755(a) and 60.759, CCR, Title 17, Section 95468(a)(1))

Recommendations

I recommend issuing a Change of Conditions to Condition #8366 for the following source:

S-1, TriCities Landfill – Waste Decomposition Process, Equipped with Gas Collection System, Abated by A-3 Landfill Gas Flare

Tamiko Endow Date
Air Quality Engineer